

## Anthuridea (Crustacea: Isopoda) from the Ryukyu Archipelago

journal or publication title	Bulletin of the Toyama Science Museum
number	15
page range	47-56
year	1992-03-20
URL	<a href="http://repo.tsm.toyama.toyama.jp/?action=repository_uri&amp;item_id=606">http://repo.tsm.toyama.toyama.jp/?action=repository_uri&amp;item_id=606</a>

**Anthuridea(Crustacea: Isopoda)from the Ryukyu Archipelago\***

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琉球列島から採集されたウミナナフシ類

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琉球列島に於けるウミナナフシ類は従来、分類学的研究がほとんど無かった。この度、琉球列島のうち先島諸島における野村恵一氏と大森浩二氏の採集品に加え、筆者自身の採集した標本を調査したので報告する。本報告で報告するのはスナウミナナフシ科の5種であり、うち、2種を新種として記載した。

ウミナナフシ亜目	Anthuridea
スナウミナナフシ科	Anthuridae
ハナレメウミナナフシ	<i>Pananthura ocellata</i> n. sp.
オオモリスナウミナナフシ	<i>Cyathura omorii</i> n. sp.
スナウミナナフシ属の一種	<i>Cyathura</i> sp.
モヨウウミナナフシ近似種	<i>Mesanthura</i> sp. (aff. <i>miyakoensis</i> Nunomura, 1979)
アパンチュラ属の一種	<i>Apanthura</i> sp.

***Pananthura ocellata* n. sp.**

(Jap. name: Hanareme-uminanafushi,)

Fig.1

*Material examined*: 1 ♀ (holotype, 4.3 mm in body length), off Hori, Kuroshima, Yaeyama Islands, Okinawa Pref., coll. Keiichi Nomura, Nov. 14, 1987. Holotype is deposited at the Toyama Science Museum (TOYA Cr-11241).

*Description*: Body almost white in alcohol, elongated and about 12 times as long as wide, excluding both antennae. Eyes small, each eye with 9~10 ommatidia, which are scattered sparsely.

Anterolateral angles of cephalon projected as far as rostrum. Peraeonal segments without dorsal pit. Demarcations of pleonal somites invisible dorsolaterally but indistinct in

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\*Contributions from the Toyama Science Museum, No.117

medial part.

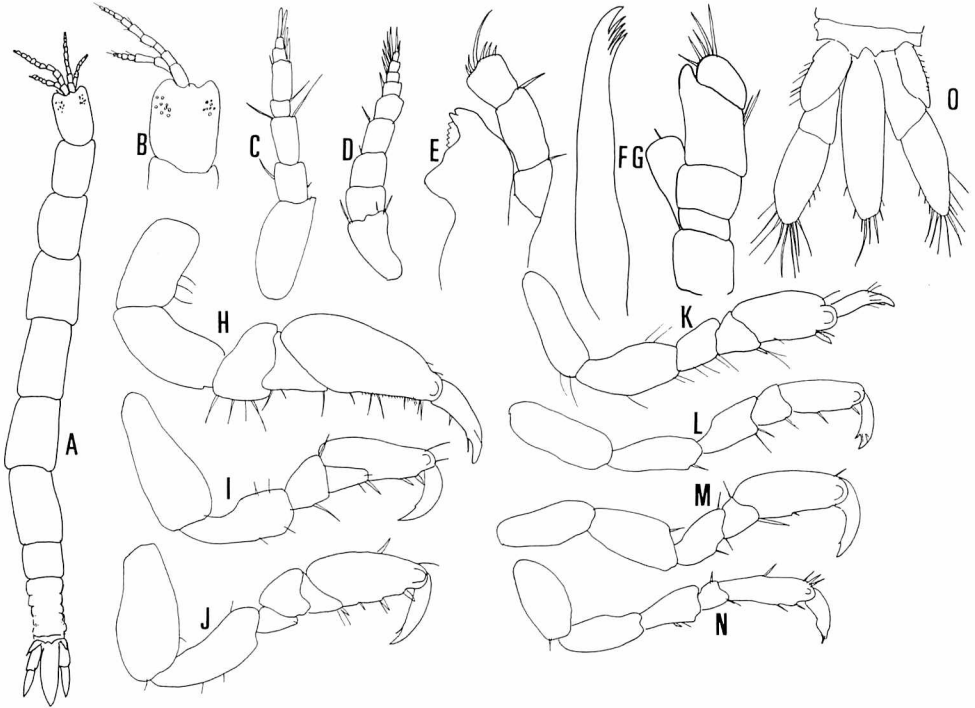
First antenna(Fig.1C) with 7 distinct segments; first segment large; second to fourth segments rectangular; distal 2 segments small and rectangular with a tuft of 4 setae at the tip.

Second antenna(Fig.1D) with 9 distinct segments; first segment blong; second to last segment square; terminal segment with 2 setae at the tip.

Mandible (Fig. 1E)with 2-headed apex and 3-segmented palp; first and second segment soblong with a seta; terminal segment small with 6 setae at the tip.

First maxilla with 6 teeth at the tip.

Maxilliped (Fig. 1G) composed of 5 segments; first segment rectangular; second segment



**Fig.1** *Pananthura ocellata* n. sp.

A. Dorsal view; B.Cephalon; C.First antenna; D.Second antenna; E.Mandible; F. First maxilla; G.Maxilliped; H-N. Peraeopods 1-7; O.Pleotelson and uropod. (All: Holotype female).

short; third segment rectangular; fourth segment big with round and protruded inner distal corner; terminal segment small and semicircular with 7 setae on distal corner. Endite rounded.

Peraeopod 1 (Fig. 1H) subchelete; basis and ischium rectangular; merus rather short; carpus triangular; propodus big with 6 to 7 spines on inner margin.

Peraeopods 2-3 (Fig. 1 I-J) are a little slenderer than peraeopod 1; basis and ischium rectangular; merus rectangular; carpus small and triangular; propodus rather stout with 7 to 8 spines on inner margin.

Peraeopods 4-7 (Fig. 1 K-N); basis and ischium oblong; merus rectangular; carpus almost square; propodus rectangular.

All the pleopods not characteristic in female.

Exopod of uropod elliptical with many setae around the margin. Endopod of uropod oblong; terminal segment round with 20 plumose setae around the margin. Pleotelson ovate-lanceolate. Statocyst lacking.

*Remarks:* The present species is considered to belong to the genus *Pananthura* mainly from the shape of maxilliped and peraeopods, but it is characteristic in not having statocysts.

This species is separated *Pananthura rigida* collected from deep sea of Suruga Bay. But the former is separated from the latter in the following features: (1) softer body, (2) presence of eye, (3) lack of dorsal pit, (4) less numerous setae of both antenna and (5) lack of statocysts.

***Cyathura omorii* n. sp.**

(Jap. name: Omori-suna-uminanafushi, new )

Fig. 2

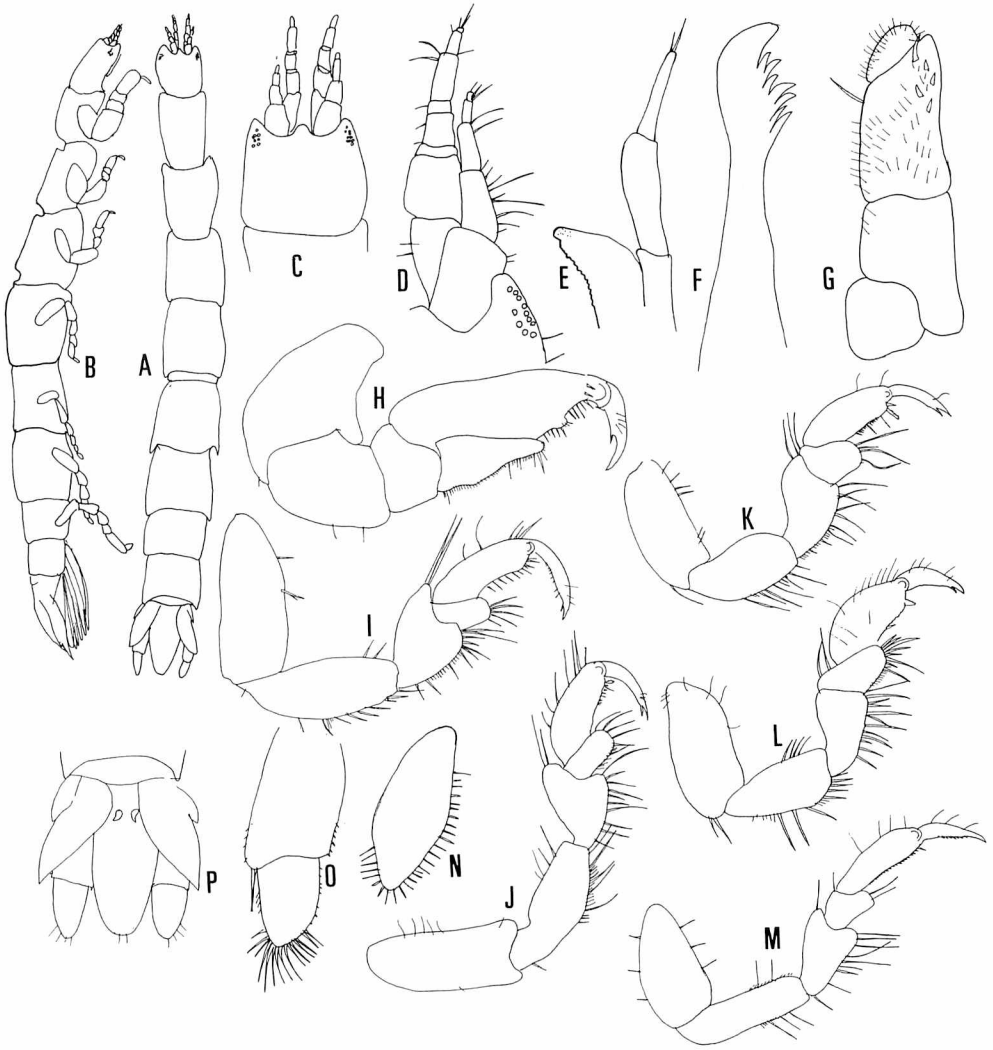
*Material examined:* 7 ♀♀ (1 ♀ holotype, 10.8 mm in body length, 6 ♀♀, paratypes 6.5~9.8 mm in body length, Estuary of the Urauchi River, Taketomi-cho, Iriomote Island, Taketomi-cho, Okinawa Pref., coll. Koji Omori. Apr. 6, 1984 and Apr. 7, 1987. Type series is deposited as follows: holotype (TOYA Cr-11249) and 3 paratypes (TOYA Cr-11250~11252) at the Toyama Science Museum and a paratype (OMNH Ar-3498) at the Osaka Museum of Natural History, a paratype (YCM CI-974) at the Yokosuka City Museum and a paratype (NSMT Cr-1495) at the National Science Museum, Tokyo.

*Description:* Body elongated and about 10 times as long as wide excluding both antennae. Color white in alcohol. Eyes moderate in size, each eye with 11 ommatidia, which are put sparsely. Dorsal pit lacking. Demarcations of pleonal somites visible from dorsal view.

Anterolateral angles of cephalon (Fig. 2C) protruded; rostral projection round but not exceeds beyond anterolateral angles.

First antenna (Fig. 2D) with 5 segments; first segment stout; second to fourth segments rectangular; terminal segment small.

Second antenna (Fig. 2D) 9-segmented; fourth, sixth and ninth segments small.



**Fig.2** *Cyathura omorii* n. sp.

A.Dorsal view; B.Lateral view; C.Cephalon; D. Both antennae; E.Mandible; F. First maxilla; G.Maxilliped; H-J. Peraeopods 1-3; K-M.Peraeopods 5-7; N.Exopod of uropod; O.Endopod of uropod ; P.Pleotelson and uropods. (All Holotype female).

Mandible(Fig. 2E); palp long and 3-segmented; incisor with a tooth.  
First maxilla(Fig. 2F) with one outer and inner 7 smaller teeth at the tip.  
Maxilliped(Fig. 2G) with 3 free segments; each segment densely setose.  
Peraeopod 1(Fig 2H); basis stout and triangular; ischium rectangular; merus relatively

short; carpus triangular with many minute setae along inner margin; propodus long with a small tubercle on inner margin.

Peraeopod 2 (Fig. 2I); basis rectangular; ischium with 10 setae in inner margin; merus triangular with 2 long setae at outer distal corner; carpus narrow with 5 setae on inner margin; propodus long.

Peraeopod 3 (Fig. 2J); basis rectangular; ischium as long as merus; carpus narrow; propodus rectangular with 7~8 long setae on outer margin.

Peraeopods 4~6 (Fig. 2 K-L); basis rectangular but a little shorter than that of peraeopod 3; ischium rectangular with 8 long and short setae; merus long with 3~4 long setae on inner margin; propodus round with a serrated setae on distal inner margin.

Peraeopod 7 (Fig. 2M); basis elliptical; ischium rectangular; merus half length of ischium; carpus rectangular; propodus long with many setae.

All the pleopods not characteristic in female.

Endopod of uropod (Fig. 2N) extended as backwards as the pleotelson.

Remarks: The present new species is most closely allied to *Cyathura muromiensis* Nunomura reported from the estuaries of many rivers of Honshu to Kyushu. But the former is separated from the latter in the following features: (1) scattered ommatidia of eyes, (2) more numerous teeth of first antenna, (3) more numerous setae of antennae, and (4) shape of mandible.

### ***Cyathura* sp.**

Fig. 3

*Material examined*: 1 ♀ (2.1 mm in body length), Gusukube-cho, Miyako Island, Okinawa-Pref., coll. Noboru Nunomura, June 29, 1975. This specimen is deposited at the Toyama Science Museum (TOYA Cr-11253).

*Description*: Body almost white in alcohol, elongated and about 8.5 times as long as wide, excluding antennae. Eyes lacking. Anterolateral angles of cephalon equally extending beyond the medial process. Dorsal pits lacking. Pleotelson lanceolate with a pair of statocysts and 2 longer and 2 shorter setae at the tip.

First antenna (Fig. 3C) four-segmented.

Second antenna (Fig. 3B) five-segmented and each segment subequal in length.

Mandible with 3-segmented palp and an acute apex.

First maxilla (Fig. 3D) slender with 5 teeth.

Maxilliped (Fig. 3E); with 3 free segments; terminal segment rounded.

Peraeopod 1 (Fig. 3F); basis triangular; ischium rectangular; merus almost square; carpus narrow; propodus big with a membranous part; dactylus long.

Peraeopod 2 (Fig. 3G); basis rectangular; ischium a little longer than basis; merus short; carpus narrow.

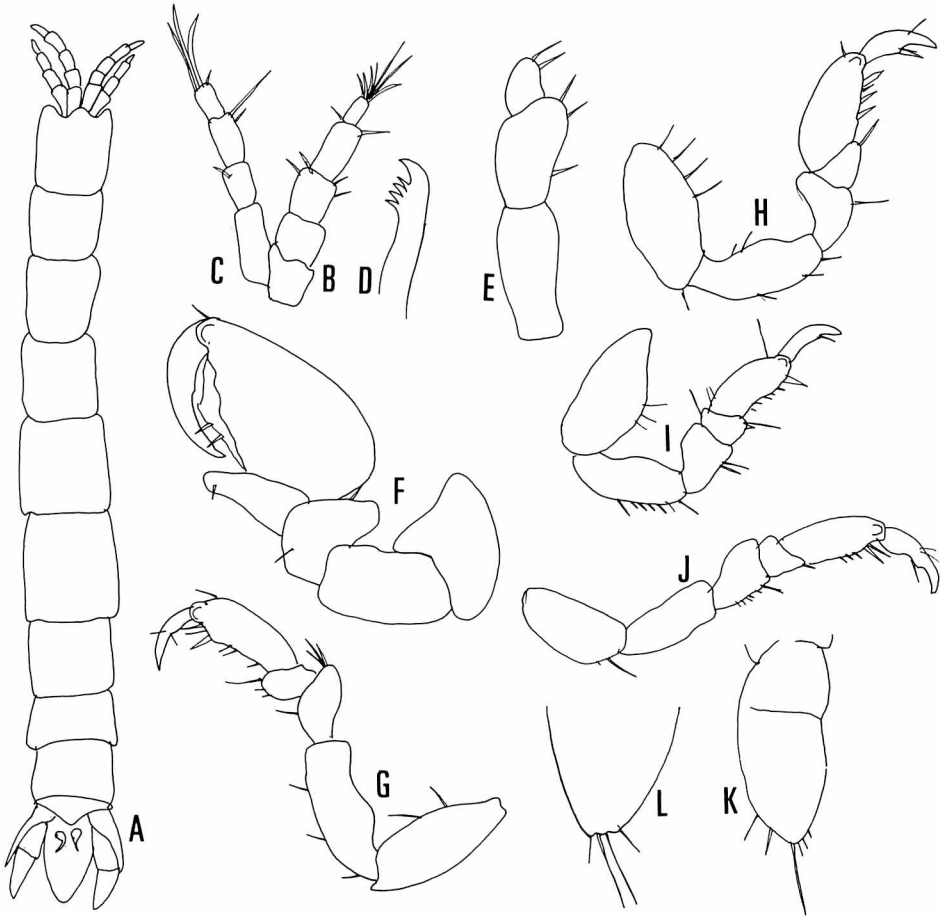
Peraeopod 3 (Fig. 3H); basis long; ischium elongated; merus half length of ischium; carpus short; propodus rectangular with 6~7 setae on inner margin.

Peraeopods 4~7 (Fig. 3I-J); basis ovate; ischium rectangular; merus 2/3 of ischium in length; carpus triangular; propodus rectangular.

Pleopods are not characteristic in female.

Uropod (Fig. 3K); endopod lanceolate.

Pleotelson (Fig. 3L) lanceolate, with a pair of big statocysts; tip with a pair of longer and a pair of shorter setae at the tip.



**Fig.3** *Cyathura* sp.

A.Dorsal view; B.First antenna; C.Second antenna; D.First maxilla; E.Maxilliped; F. Peraeopod 1; G.Peraeopod 2; H.Peraeopod 3; I.Peraeopod 4; J.Peraeopod 6; K. Endopod of uropod; L.Tip of pleotelson. (All: Female specimen from Miyako Island).

*Remarks:* The present specimen is most closely allied to *Cyathura kikuchii* Nunomura from Kyushu. This might be a younger individual of some species of the genus *Cyathura*. But the former is separated from the latter in the following features: (1)less numerous segment of both antenna, (2)less numerous segments of first maxilla and (3)less numerous setae on peraeopods and maxilliped. But only one female specimen has been collected, so I refrained to establish a new species.

***Mesanthura* sp. (*aff. miyakoensis*, Nunomura, 1979)**

(Jap. name:Moyou-uminanafushi)

Fig. 4

*Mesanthura miyakoensis* Nunomura, 1979.

*Material examined:* 3 ♀ (3.3~4.5 mm in body length, Kuroshima, Yaeyama Islands, Okinawa Pref. coll. Keiichi Noumura, Nov., 27,1987.

*Description:* Body almost white in alcohol, elongated and about 10 times as long as wide; excluding antennae. Eye lacking. Anterolateral angles of cephalon projected as far as rostrum. Peraeonal segments without any dorsal pit. Demarcations of pleonal somites not visible dorsolaterally but indistinct in medial part.

First antenna (Fig. 4D) with 5 distinct segments; first segment large; second to fourth segments rectangular; terminal segment small and rectangular with a tuft of setae at the tip.

Second antenna (Fig. 4E) with 7 distinct segments; first segment small; second segment largest and grooved; terminal segment with a tuft of setae at the tip.

Mandible (Fig. 4F) with 3-headed apex and 3-segmented palp; first and second segments oblong without seta; terminal segment small with 4 setae.

First maxilla (Fig. 4G) with 4 teeth at the tip.

Maxilliped (Fig. 4H) composed of 4 segments; first segment rectangular; second segment short; third segment rectangular with 2 setae; terminal segment small and semicircular with 3 setae at distal corner.

Peraeopod 1 (Fig. 4I) subchelate; basis and ischium rectangular; merus rather short; carpus triangular; propodus big with 6 to 7 spines on inner margin.

Peraeopods 2~3 (Fig. 4J) are a little slenderer than peraeopod 1; basis and ischium rectangular; merus triangular; carpus small; propodus rather stout with 7 to 8 spines on inner margin.

Peraeopods 4~7 (Fig. 4K) are ambulatory; basis and ischium oblong; merus rectangular; carpus almost square; propodus rectangular.

All the pleopods not characteristic in female.

Exopod of uropod (Fig. 4F) elliptical with 12 setae around the margin. Endopod of uropod oblong; terminal segment round with 12 plumose setae around the margin. Telson ovate-lanceolate, with a pair of rather big statocysts near the basal part.



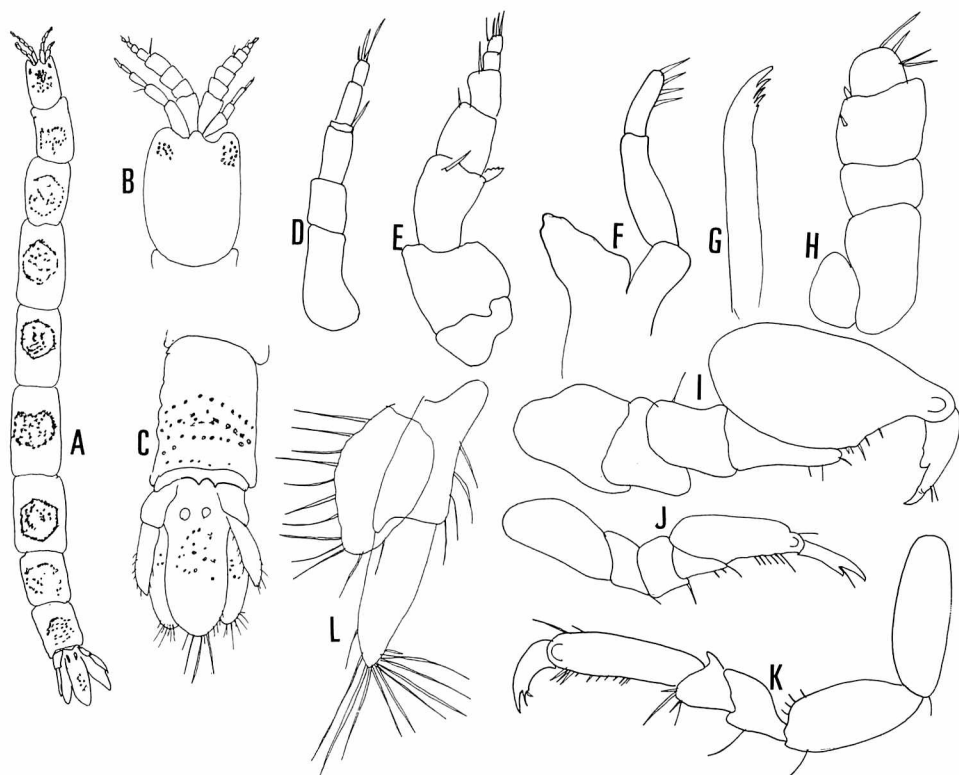


Fig.4 *Mesanthura* sp. (aff. *miyakoensis* Nunomura, 1979)

A.Dorsal view; B.Cephalon; C.Pleon and pleotelson; D.First antenna; E.Second antenna; F.Mandible; G.First maxilla; H.Maxilliped; I.Peraeopod 1; J.Peraeopod 2; K.Peraeopod 7; L.Uropod (All: Female specimen from Kuroshima).

*Remarks:* The present specimens agree with the original description of *Mesanthura miyakoensis* Nunomura collected from Miyako Island. Unfortunately, hitherto, no male specimen have been found. But the former is different from the latter in the following features: (1)scattered ommatidia of eyes, (2) 6 segments of first antenna instead of 4;(3)7 segments of second antenna instead of 10, and (4)longer merus of peraeopod.

#### *Apanthura* sp.

Fig. 5

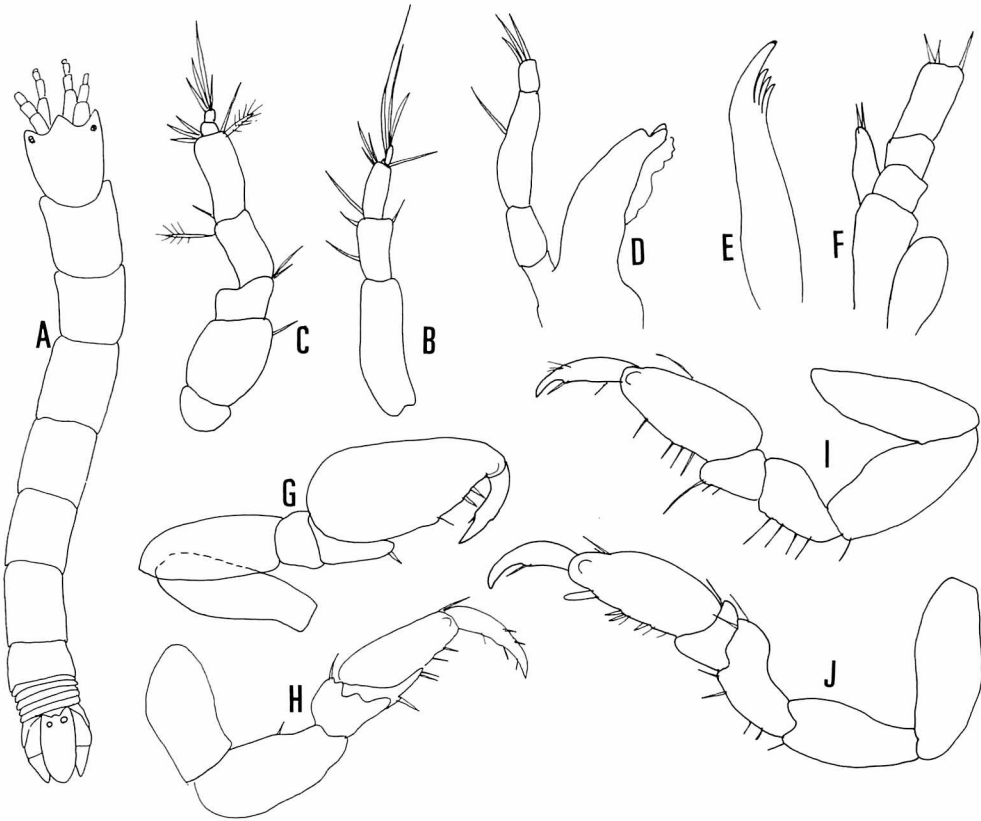
*Material examined:* 3 ♀ (2.6~3.3 mm in body length), Kuroshima, Yaeyama Islands, Okinawa Pref., This specimen is deposited at the Toyama Science Museum(TOYA Cr-11246

~11248).

*Description:* Body almost white in alcohol, elongated, about 10 times as long as wide excluding both antennae. Eyes small, each eye with 4~5 ommatida. Anterolateral angles of cephalon protruded as far as rostrum. Peraeonal segments without any dorsal pit. Pemarkations of pleonal somite visible dorsolaterally.

First antenna (Fig. 3C) with 4 distinct segments; first segment large; second to third segments rectangular; temrminial segment small and rectangular with a tuft of setae at the tip.

Second antenna (Fig. 5C) with 7 distinct segments; first segment small; second largest; third segment short; fourth and fifth segments with a plumose seta; terminal segment with a



**Fig.5** *Apanthura* sp.

A.Dorsal view; B.First antenna; C.Second antenna; D.Mandible; E.First maxilla; F. Maxilliped; G.Peraeopod 1; H.Peraeopod 2; I.Peraeopod 6; J.Peraeopod. (All: Female specimen from Kuroshima).

tuft of setae at the tip.

Mandible (Fig. 5D) with 2-headed apex and 3-segmented palp; first and second segments oblong; terminal segment small with 3 setae at the tip.

First maxilla (Fig. 5E) with 4 teeth at the tip.

Maxilliped (Fig. 5I) composed of 4 segments; first segment rectangular; second segment short with 2 setae at inner distal corner; third segment rectangular with 3 setae; terminal segment small and rectangular with 3 setae on distal corner. setae at the tip. Endite slender with 2 setae at the tip.

Peraeopod 1 (Fig. 5G) subchele; basis and ischium rectangular; merus rather short; carpus triangular; propodus big with 6 spines on inner margin.

Peraeopods 2~3 (Fig. 5H) are a little slenderer than peraeopod 1; basis and ischium rectangular; merus rectangular about half length of ischium; carpus small; propodus rather stout with 7 to 8 spines on inner margin.

Peraeopods 4~7 (Figs. 5I-J); basis and ischium oblong; merus rectangular; carpus almost square; propodus rectangular.

All the pleopods not characteristic in female. Exopod of uropod elliptical. Endopod of uropod oblong. Pleotelson ovate-lanceolate, with a pair of rather big statocysts

*Remarks:* The present specimens resemble *Apanthura* sp. reported from the sea off Kagawa, Seto Inland sea from Kyushu. But these specimens differ from the species in the following features: (1) position of ommatidia of eyes, (2) distinct suture line, (3) shape of maxillipeds, and (4) shape of second antenna. But I refrained to establish a new species because no male specimen has been collected.

#### Acknowledgments

This work was partly supported by the Grant in Aid from Research Institute of Marine Invertebrate.

#### References

- Barnard, K.H. 1925 A revision of the family Anthuridae (Crustacea, Isopoda) with remarks on certain morphological peculiarities. Jour. Linn. Soc. 36:109-160.
- Nunomura, N. 1977. Marine Isopod from Amakusa, Kyushu (1) Publ. Amakusa Mar. Biol. Lab., 4(2):71-90.
- Nunomura, N. 1985. Marine tanaid and isopod crustacean off Kagawa Pref., Seto Inland Sea.
- Poore, G. C. B. and Lew Ton, H. M. 1985. *Apanthura*, *Apanthuretta*, and *Apanthuropsis* (Crustacea; Isopoda: Anthuridae) with south eastern Australia. Memoirs of the Museum of Victoria 46:103-151.
- Poore, G.C.B. and Lew Ton, H.M. 1988. *Amakusanthura*, and *Apanthura* (Crustacea; isopoda; Anthuridae) with New species from Tropical Australia. Mem. Mus. Victoria, 49(1): 107-147.